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**TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. § 371**

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

09/831139
No yet Assigned

INTERNATIONAL APPLICATION NO.
PCT/DE99/00068

INTERNATIONAL FILING DATE
14 January 1999

PRIORITY DATE CLAIMED
6 November 1998

TITLE OF INVENTION

DATA PROCESSING SYSTEM OR COMMUNICATIONS TERMINAL WITH A DEVICE FOR RECOGNIZING SPEECH AND METHOD FOR RECOGNIZING CERTAIN ACOUSTIC OBJECTS

APPLICANT(S) FOR DO/EO/US

Friedrich MÜLLER

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☒ The US has been elected by the expiration of 19 months from the priority date (PCT Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☒ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ has been communicated by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application under PCT Article 19 (35 U.S.C. 371(c)(2))
 - a. ☒ is attached hereto.
 - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).
 - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☒ have been communicated by the International Bureau.
 - c. ☐ have not been made, however, the time limit for making such amendments has NOT expired
 - d. ☐ have not been made and will not be made
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☐ A FIRST preliminary amendment.
14. ☐ A SECOND or SUBSEQUENT preliminary amendment.
15. ☐ A substitute specification
16. ☐ A change of power of attorney and/or address letter
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter 2 and 35 U.S.C. 1.821 - 1.825
18. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☒ Other items or information: 1. International Search Report 2. IPER 3. Return receipt postcard.

CERTIFICATE OF HAND DELIVERY

I hereby certify that this correspondence is being hand filed with the United States Patent and Trademark Office in Washington, D.C. on May 7, 2001

Lawrence Whetstone

U.S. APPLICATION NO (if known, see 37 CFR 1.5) <div style="font-size: 2em; font-weight: bold; text-align: center;">09/831139</div>		INTERNATIONAL APPLICATION NO. PCT/DE99/00068		ATTORNEY'S DOCKET NUMBER: 449122005700	
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21. <input checked="" type="checkbox"/> The following fees are submitted: BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)): Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO.....\$1,000.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO.....\$860.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO.....\$710.00 International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provision of PCT Article 33(1)-(4)\$690.00 International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4)\$100.00				CALCULATIONS PTO USE ONLY	
ENTER APPROPRIATE BASIC FEE AMOUNT =				\$ 860.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$0	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	\$0	
Total claims	11 - 20 =	0	x \$18.00	\$0	
Independent claims	2 - 3 =	0	x \$80.00	\$0	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$270.00	\$270.00	
TOTAL OF ABOVE CALCULATIONS =				\$1130.00	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				\$0	
SUBTOTAL =				\$1130.00	
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				+	\$0
TOTAL NATIONAL FEE =				\$1130.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property				+	\$0
TOTAL FEES ENCLOSED =				\$1130.00	
				Amount	\$
				to be	
				refunded:	
				charged:	\$

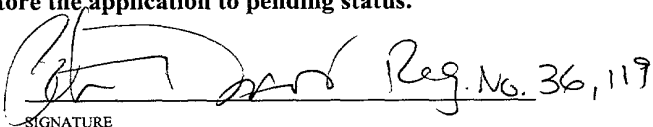
a. ☒ A check in the amount of \$ 1130.00 to cover the above fees is enclosed.

b. ☒ The Commissioner is hereby authorized to charge any additional fees that may be required, or credit any overpayment to
Deposit Account No. 03-1952.

**NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive
 (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.**

SEND ALL CORRESPONDENCE TO:

Kevin R. Spivak
 Morrison & Foerster LLP
 2000 Pennsylvania Avenue, N.W.
 Washington, D.C. 20006-1888


 SIGNATURE
 For Kevin R. Spivak
 Registration No. 43,148

Description

Data processing system or communications terminal with
a device for recognizing speech and method for
5 recognizing certain acoustic objects

Devices and methods for recognizing natural
speech are today familiar to a person skilled in the
art from many different applications. The practical
10 applicability and capacity of systems of this type
depends very much on their complexity and the extent of
their range of applications. The general principle
applies that the recognition rate of such a system
usually decreases greatly with an increasing number of
15 acoustic objects to be recognized (words, phonemes,
individual letters, etc.). At the same time, however,
measured in terms of cost and space requirement but
also with regard to training effort, the expenditure
also usually increases greatly with the extent of
20 applications.

Conventional speech recognition systems are
therefore still not used for many applications,
although in principle they would be suitable for them
from the viewpoint of the user. The invention is
25 therefore based on the object of specifying a technical
teaching which makes it possible for speech recognition
to be used even for those applications where relatively
great expenditure has to be ruled out for economic or
other reasons. This object is achieved by a data
30 processing system or communications terminal with a
device for recognizing speech or by a method for
recognizing certain acoustic objects according to one
of the patent claims.

The product according to the invention, a data
35 processing system or communications terminal, has a
device for recognizing speech which is set up
specifically to recognize certain acoustic objects, to
be specific individual letters, combinations of letters
or control commands, or can be specifically configured

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to recognize such objects.

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The same applies correspondingly to the speech recognition algorithm of a method according to the invention. Furthermore, a device for the acoustic output or optical display of recognized acoustic objects is provided. In this way, the number or set of the acoustic objects to be recognized can be largely adapted to the intended application. The envisaged device for the acoustic output or optical display of recognized acoustic objects makes possible a direct feedback between the user and the system, providing the user with effective control over the recognition capacity and allowing the number of misrecognitions to be reduced in a simple but very effective way.

If the user establishes a misrecognition on the basis of the acoustic output or optical display, he can repeat the acoustic input of the object to be recognized. Since this process possibly does not lead to correct recognition in a very short time, it is provided according to a preferred embodiment of the present invention that the speech recognition device is set up or can be configured in such a way that the recognition of a certain first control command has the effect following the output or display of an acoustic object of triggering the output or display of a further acoustic object. This enables the user after the output or display of an acoustic object, that is for example after an established misrecognition, to make the system output a further acoustic object by the acoustic input of a special acoustic object, to be specific a control command.

If, for example for a selection $\{A01, A02, \dots, A0n\}$ of possible acoustic objects, the device for speech recognition or the speech recognition algorithm determines recognition probabilities $\{p1, p2, \dots, pn\}$ with the property $1 > p1 \geq p2 \geq \dots \geq pn > 0$, this preferred

embodiment makes possible, for example, the output or display of AO2 after the output of the misrecognized object AO1, or similar measures for supporting a correction of the recognition error that is as convenient as possible for the user. A possible selection for such a special acoustic object or such a control command would be, for example, the word "incorrect". It is not difficult for a person skilled in the art to consider on the basis of this description further application possibilities for this embodiment of the present invention.

Further preferred embodiments of the present invention are the subject of further subclaims.

The invention is explained in more detail below on the basis of preferred exemplary embodiments with the aid of figures.

Figure 1 shows in a schematic way the structure and mode of operation of a preferred embodiment of a system according to the invention.

As represented in figure 1, this embodiment of a data processing system (DPCD) or communications terminal (DPCD) according to the invention comprises a speech recognition unit (SRU), which recognizes acoustic objects (AO) spoken by a user of the system and feeds the recognized acoustic objects (RAO) to a device for acoustic output or optical display (DU). According to the present invention, the speech recognition device is set up specifically to recognize certain acoustic objects (AO), to be specific individual letters, combinations of letters or control commands, or can be configured specifically to recognize such objects.

The speech recognition device consequently assigns to an acoustic object (AO) spoken by the user in each case an acoustic object recognized by this device (RAO). Since the recognition of natural speech is always

According to a further preferred embodiment, it
35 is possible to provide a control command, for example
the word "continue", which, when recognized following
the speaking or display of an acoustic object, has the
effect of triggering the display or output of an

[illegible]

object which follows the former object in a certain sense. The sequence of the objects does not in this case have to be fixed by the magnitude of recognition probabilities or plausibility values but may also be
5 dictated by the sequence of entries in a memory unit (MU) of the system, or by alphabetical sequences of objects or sequences of objects semantically defined within a defined context. For example, the sequence of
10 objects could be defined by the order within a database, a telephone directory or the structure of a file stored in the memory unit, for example a customer file, a dictionary, or similar files.

When this patent application mentions devices which are set up or can be configured for a certain
15 function or mode of operation, this means that the corresponding functional features of these devices may be permanently or temporarily restricted. Furthermore, these devices can be set up or configured by all those involved between the manufacturer and the user by
20 manufacturing processes, settings on the hardware or the use or parameterization of software or equivalent means or measures for a certain function or mode of operation. A person skilled in the art will readily deduce from this description numerous similar or
25 equivalent means or measures for this purpose.

A speech recognition device is preferably set up or configured by a suitable selection or parameterization of the software which realizes the desired function in the speech recognition algorithm
30 and/or the sequence control of this device. A data memory is preferably set up or configured by a suitable selection or parameterization of the data structure, for example the database structure, which defines the type of storage of the data on this memory and the type
35 of access to these data.

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5 The effective recognition capacity of the system can be distinctly improved by the recognition of an acoustic object or a sequence of objects which corresponds or correspond to an entry in the data memory having the effect of triggering the display or output of this entry (ME) or a function (FU) of the system associated with this entry. As a result, the existing prior knowledge of the objects likely to be recognized can be utilized very advantageously.

10 Although this technique is known in principle to a person skilled in the art, it is particularly effective, as appropriate tests have shown, in connection with a speech recognition system specially designed to recognize a limited set of objects to be

15 recognized, for example individual letters.

So if, for example, the first three letters of an entry in a telephone directory are recognized, a preferred embodiment of the invention provides the output or display of this telephone directory entry.

20 If it is not the desired entry, it may be sufficient to input (i.e. say) a control command or a few further control commands, such as for example "continue" or "street" or "fax number" or "connect", to achieve on the basis of, for example, the name of a subscriber

25 known to the user the output of the latter's fax number or the dialing of this number by the communications terminal by saying the first three initial letters of his name. Other functions which could be triggered in this way, such as for example the output of a text or

30 image, the display of a data record, etc., are so numerous that it is not possible to list them here.

The capacity of the systems or methods which realize the present invention can be further increased by providing certain control commands, such as for

35 example "letter", "control" or "combination", etc., the speaking of which enables the user to restrict the set of

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objects to be recognized according to his choice (temporarily or permanently) to a certain subset, such as for example individual letters, combinations of letters or control commands.

5 With the present invention, in particular the number of telephone entries which can be called up by voice selection in a mobile telephone or cordless phone or in a wire-bound telephone can be increased at will. In the case of customary systems of this type, only a
10 limited number of entries was allowed for voice selection, from experience at most 20 or 30 entries. This was due to the memory space to be made available for the voice samples to be re-recognized, i.e. due to the resultant costs and space requirement. If the
15 number of entries was further increased, experience showed that the effort for training the speech recognition increased considerably, which led to lower user acceptance.

 According to a preferred embodiment of the
20 present invention, the speech recognition algorithm is trained by the user only for the letters of the alphabet, and possibly combinations, and just a few control commands. It is in this way set up or appropriately configured by the user for the
25 recognition of these acoustic objects. Interrogation takes place by the acoustic input of initial letters and (preferably up to two) subsequent letters. Misrecognitions are reduced by plausibility checks, i.e. for example by comparison of the objects with
30 entries in a memory device. The names input are spoken only once and converted in an encoder with a low bit rate (for example half rate of GSM) and stored at the corresponding memory location, possibly in a compressed form.

35 Alternatively, a synthesis program which synthesizes voice from a name may also be used, possibly requiring less memory space. In any event, the speech

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recognition does not have to be trained for a large number of names but only for a fixed set of approximately 30 sequences of letters and control commands.

5 To use this embodiment of the invention, the user activates the service feature "voice selection", for example by means of the scroll key at the side, and inputs the first letters of the entry sought, possibly in the form "letter A" etc. Experience shows that the
10 probability of recognition is considerably greater in this case than in the case of a single letter. Each input is acoustically acknowledged by the recognized object being output. If the object was correctly recognized, the next object to be recognized is input.

15 If an object is recognized wrongly, the user responds with "incorrect" or "no". The system then proposes the next probable letter, for example instead of "D" a "T" or instead of "H" an "A" and so on. In most cases, it is sufficient to input the first two or
20 three letters to find the correct entry. If a corresponding control command is input or no further input takes place (control command = pause in speech), the terminal outputs the corresponding name in the telephone directory of the terminal. If there are a
25 number of entries with the same initial sequence of letters, the user issues, for example, the command "continue", until the "correct" name is acknowledged.

 If a letter is recognized wrongly and, as a consequence, a first letter that is remote in the
30 alphabet - for example "T" instead of "D" - is output as the beginning of the input combination of letters, the user inputs (i.e. speaks) the control command "selection". The terminal then proposes the most probable next correct combination of initial letters.
35 Knowledge of the names stored in the telephone directory allows most possible wrong combinations to be ruled out from the outset. After that, the user issues the command "dial".

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Patent claims

1. A data processing system (DPCD) or communications terminal (DPCD) with a device (SRU) for
5 recognizing speech having the following features:
a) the speech recognition device is set up specifically to recognize certain acoustic objects (AO), to be specific individual letters, combinations of letters or control commands, or can be configured specifically to
10 recognize such objects;
b) a device for the acoustic output (DU) or optical display (DU) of recognized acoustic objects (RAO) is provided.
2. The system as claimed in claim 1, the speech
15 recognition device (SRU) of which is set up or can be configured in such a way that the recognition of a certain first control command has the effect following the output or display of an acoustic object of triggering the output or display of a further acoustic
20 object.
3. The system as claimed in one of the preceding claims, having a data memory (MU) which is set up or can be configured in such a way that the recognition of an acoustic object or a sequence of objects which
25 corresponds or correspond to an entry in the data memory has the effect of triggering the display or output of this entry (ME) or a function (FU) of the system associated with this entry.
4. The system as claimed in claim 3, in which the
30 recognition capacity is improved by a comparison of possible objects or object sequences with existing entries in the data memory (MU).

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6. A method for recognizing certain acoustic objects, in which

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9. The method as claimed in one of the preceding method claims, in which the recognition capacity is improved by a comparison of possible objects or object sequences with existing entries in the data memory.

- 5 10. The method as claimed in one of the preceding method claims, the speech recognition algorithm of which can be brought with the aid of certain control commands into specific operating states for the recognition of individual letters, combinations of
10 letters or control commands.

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TOTAL 612650

Abstract

Data processing system or communications terminal with a device for recognizing speech and method for recognizing certain acoustic objects

Small devices with database functionality, for example mobile telephones with a telephone directory function, can be controlled with the aid of a simplified speech recognition device which is specially designed intentionally for the recognition of control commands and individual letters or combinations of letters. This makes it possible for the recognition capacity to be improved and allows larger databases to be used with less demands on the capacity of the hardware.

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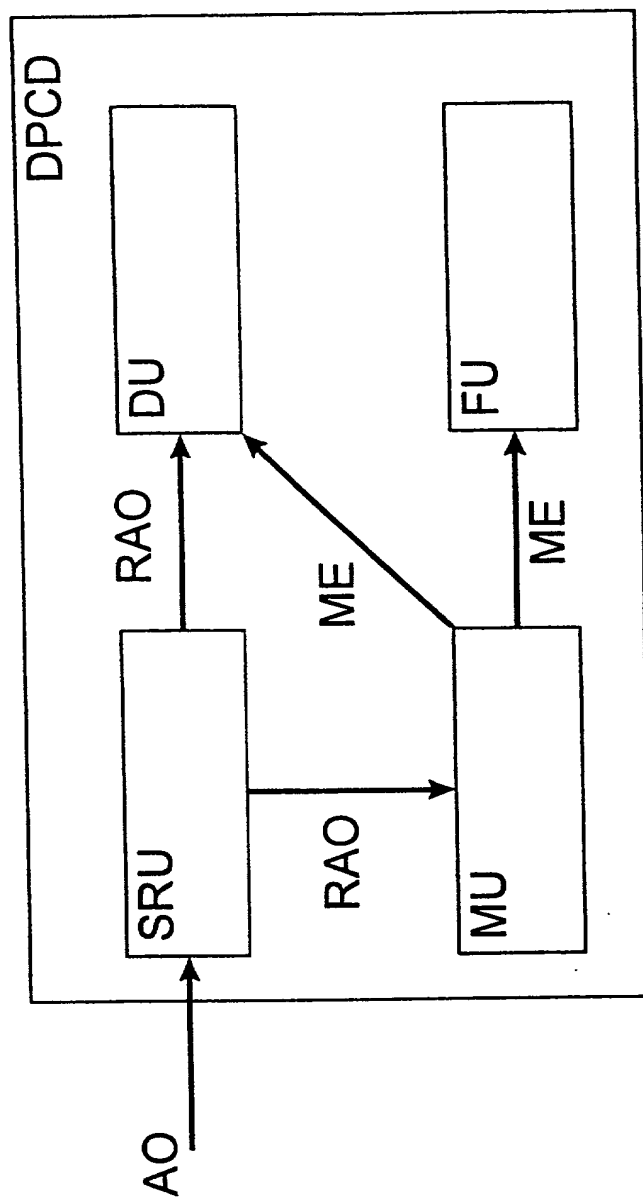


Fig. 1

Declaration and Power of Attorney For Patent Application

Erklärung Für Patentanmeldungen Mit Vollmacht

German Language Declaration

Als nachstehend benannter Erfinder erkläre ich hiermit an Eides Statt:

As a below named inventor, I hereby declare that:

dass mein Wohnsitz, meine Postanschrift, und meine Staatsangehörigkeit den im Nachstehenden nach meinem Namen aufgeführten Angaben entsprechen,

My residence, post office address and citizenship are as stated below next to my name,

dass ich, nach bestem Wissen der ursprüngliche, erste und alleinige Erfinder (falls nachstehend nur ein Name angegeben ist) oder ein ursprünglicher, erster und Miterfinder (falls nachstehend mehrere Namen aufgeführt sind) des Gegenstandes bin, für den dieser Antrag gestellt wird und für den ein Patent beantragt wird für die Erfindung mit dem Titel:

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Datenverarbeitungssystem oder
Kommunikationsendgeraet mit einer
Einrichtung zur Erkennung gesprochener
Sprache und Verfahren zur Erkennung
bestimmter akustischer Objekte

Data processing system or
communications terminal with a device
for recognising speech and method for
recognising certain acoustic objects

deren Beschreibung

the specification of which

(zutreffendes ankreuzen)

☐ hier beigefügt ist.

☒ am 14.01.1999 als

PCT internationale Anmeldung

PCT Anmeldungsnummer PCT/DE99/00068

eingereicht wurde und am _____

abgeändert wurde (falls tatsächlich abgeändert).

(check one)

☐ is attached hereto.

☒ was filed on 14.01.1999 as

PCT international application

PCT Application No. PCT/DE99/00068

and was amended on _____
(if applicable)

Ich bestätige hiermit, dass ich den Inhalt der obigen Patentanmeldung einschliesslich der Ansprüche durchgesehen und verstanden habe, die eventuell durch einen Zusatzantrag wie oben erwähnt abgeändert wurde.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims as amended by any amendment referred to above.

Ich erkenne meine Pflicht zur Offenbarung irgendwelcher Informationen, die für die Prüfung der vorliegenden Anmeldung in Einklang mit Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) von Wichtigkeit sind, an.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

Ich beanspruche hiermit ausländische Prioritätsvorteile gemäss Abschnitt 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 119 aller unten angegebenen Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde, und habe auch alle Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde nachstehend gekennzeichnet, die ein Anmeldedatum haben, das vor dem Anmeldedatum der Anmeldung liegt, für die Priorität beansprucht wird.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

PTO/FB-240 (8-83)

IDNR: 2590 / V: 99-1.00 / B: Val

German Language Declaration

Prior foreign applications
Priorität beansprucht

Priority Claimed

19851287.2
(Number)
(Nummer)

DE
(Country)
(Land)

06.11.1998
(Day Month Year Filed)
(Tag Monat Jahr eingereicht)

☒ ☐
Yes No
Ja Nein

(Number) (Country)
(Nummer) (Land)

(Day Month Year Filed)
(Tag Monat Jahr eingereicht)

☐ ☐
Yes No
Ja Nein

(Number) (Country)
(Nummer) (Land)

(Day Month Year Filed)
(Tag Monat Jahr eingereicht)

☐ ☐
Yes No
Ja Nein

Ich beanspruche hiermit gemäss Absatz 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 120, den Vorzug aller unten aufgeführten Anmeldungen und falls der Gegenstand aus jedem Anspruch dieser Anmeldung nicht in einer früheren amerikanischen Patentanmeldung laut dem ersten Paragraphen des Absatzes 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 122 offenbart ist, erkenne ich gemäss Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) meine Pflicht zur Offenbarung von Informationen an, die zwischen dem Anmeldedatum der früheren Anmeldung und dem nationalen oder PCT internationalen Anmeldedatum dieser Anmeldung bekannt geworden sind.

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §122, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

PCT/DE99/00068
(Application Serial No.)
(Anmeldeseriennummer)

14.01.1999
(Filing Date D, M, Y)
(Anmeldedatum T, M, J)

(Status)
(patentiert, anhängig,
aufgegeben)

(Status)
(patented, pending,
abandoned)

(Application Serial No.)
(Anmeldeseriennummer)

(Filing Date D,M,Y)
(Anmeldedatum T, M; J)

(Status)
(patentiert, anhängig,
aufgeben)

(Status)
(patented, pending,
abandoned)

Ich erkläre hiermit, dass alle von mir in der vorliegenden Erklärung gemachten Angaben nach meinem besten Wissen und Gewissen der vollen Wahrheit entsprechen, und dass ich diese eidesstattliche Erklärung in Kenntnis dessen abgebe, dass wissentlich und vorsätzlich falsche Angaben gemäss Paragraph 1001, Absatz 18 der Zivilprozessordnung der Vereinigten Staaten von Amerika mit Geldstrafe belegt und/oder Gefängnis bestraft werden koennen, und dass derartig wissentlich und vorsätzlich falsche Angaben die Gültigkeit der vorliegenden Patentanmeldung oder eines darauf erteilten Patentes gefährden können.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

German Language Declaration

VERTRETUNGSVOLLMACHT: Als benannter Erfinder beauftrage ich hiermit den nachstehend benannten Patentanwalt (oder die nachstehend benannten Patentanwälte) und/oder Patent-Agenten mit der Verfolgung der vorliegenden Patentanmeldung sowie mit der Abwicklung aller damit verbundenen Geschäfte vor dem Patent- und Warenzeichenamt: (Name und Registrationsnummer anführen)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

Customer No. 25227

And I hereby appoint

Telefongespräche bitte richten an:
(Name und Telefonnummer)

Direct Telephone Calls to: (name and telephone number)

Ext. _____

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Send Correspondence to:

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2000 PENNSYLVANIA AVE, NW 20006-1888 WASHINGTON, DC
Telephone: +1 202 887 1500 and Facsimile +1 202 887 0763

or

Customer No. 25227

Voller Name des einzigen oder ursprünglichen Erfinders: FRIEDRICH MUELLER		Full name of sole or first inventor: FRIEDRICH MUELLER	
Unterschrift des Erfinders <i>Friedrich Mueller</i>	Datum 18.5.01	Inventor's signature	Date
Wohnsitz MUENCHEN, DEUTSCHLAND DEX		Residence MUENCHEN, GERMANY	
Staatsangehörigkeit DE		Citizenship DE	
Postanschrift MAXHOFSTR 74/0 TEUTONENSTR 17/1 81475 MUENCHEN 81925 MUENCHEN *		Post Office Address MAXHOFSTR 74/0 TEUTONENSTR 17/1 81475 MUENCHEN 81925 MUENCHEN *	
Voller Name des zweiten Miterfinders (falls zutreffend):		Full name of second joint inventor, if any:	
Unterschrift des Erfinders	Datum	Second Inventor's signature	Date
Wohnsitz		Residence	
Staatsangehörigkeit		Citizenship	
Postanschrift		Post Office Address	

(Bitte entsprechende Informationen und Unterschriften im Falle von dritten und weiteren Miterfindern angeben).

(Supply similar information and signature for third and subsequent joint inventors).

**) Anschrift geändert. Friedrich Mueller 18.5.01*